STUDIO ING. VINCENZO BACCAN
industrial, architectural and environmental acoustics
Corso del Popolo,161 - ROVIGO - tel. 0425.200040
studio.baccan@virgilio.it

TEST REPORT N. 181/06

Date of issue:	18/08/2006
Client:	Geoplast spa Via Martiri della Libertà, 6/8 - Grantorto (PD)
Type of test:	Measurement of trampling sound insulation of floors according to the technical standard UNI EN ISO 140-7 (2000)
Test subject:	Intermediate floor between the first floor and ground floor at office building in via Martiri della Libertà, 6/8, Grantorto (PD)
Identification of partition:	Slab between offices on the first floor and on the ground floor
Construction characteristics:	- plaster 1.5 cm - slab in concrete and masonry cm 16+4 - lightweight concrete, thickness 10 cm - Geoplast Modulo h 6 cm - screed sand / cement, 5 cm thick, separated by perimeter walls with interposition of polyethylene foam band
Resilient layer:	not present
Surface of the common partition:	73,3 sqm.
Volume of the receiving room:	196 mc.
Date of test:	27/07/2006

Test conditions:

The measurements were performed on a building under construction. On the exterior walls were present exterior doors and windows, the other holes were plugged with cork panels.

Instrumentation used:

- Sound Level Meter / real time analyzer 01dB mod. Symphonie S/N 172;
- Preamplifier ACLAN mod. PRE 12H S/N 970118;
- Microphone for diffuse field GRAS mod. 40AR S/N 5340;
- Acoustic Calibrator AKSUD mod. 5117 S/N 28739;
- Generator of normalized stamping LOOK LINE mod.EM 50;
- Omni-directional dodecahedron source BIELETTRO mod.160;
- Amplifier DB TECHNOLOGY mod. PM 900.

Certificates of calibration of the measuring system were issued on 1/8/05 by n. 54/E (certificates n. 2005/370/F e n. 2005/371/C).

Details on test:

In the emitting room, the stamping machine was placed in four different positions, chosen at random on the floor tested. The minimum distance between the trampling machine and the perimeter walls of the environment has always been greater than 0.5 meters. The support line of hammers was inclined at 45 ° with respect to the axis of the beams. The microphone, mounted on the appropriate tripod, was placed in the receiving room in four distinct points, distant from each other at least 0.7 m. And at least 0.5 m away from the walls. Were performed eight measurements of the sound pressure level for bands of 1/3 octave, by choosing different combinations of the positions of the microphone and trampling generator, with integration time always greater than 10 seconds.

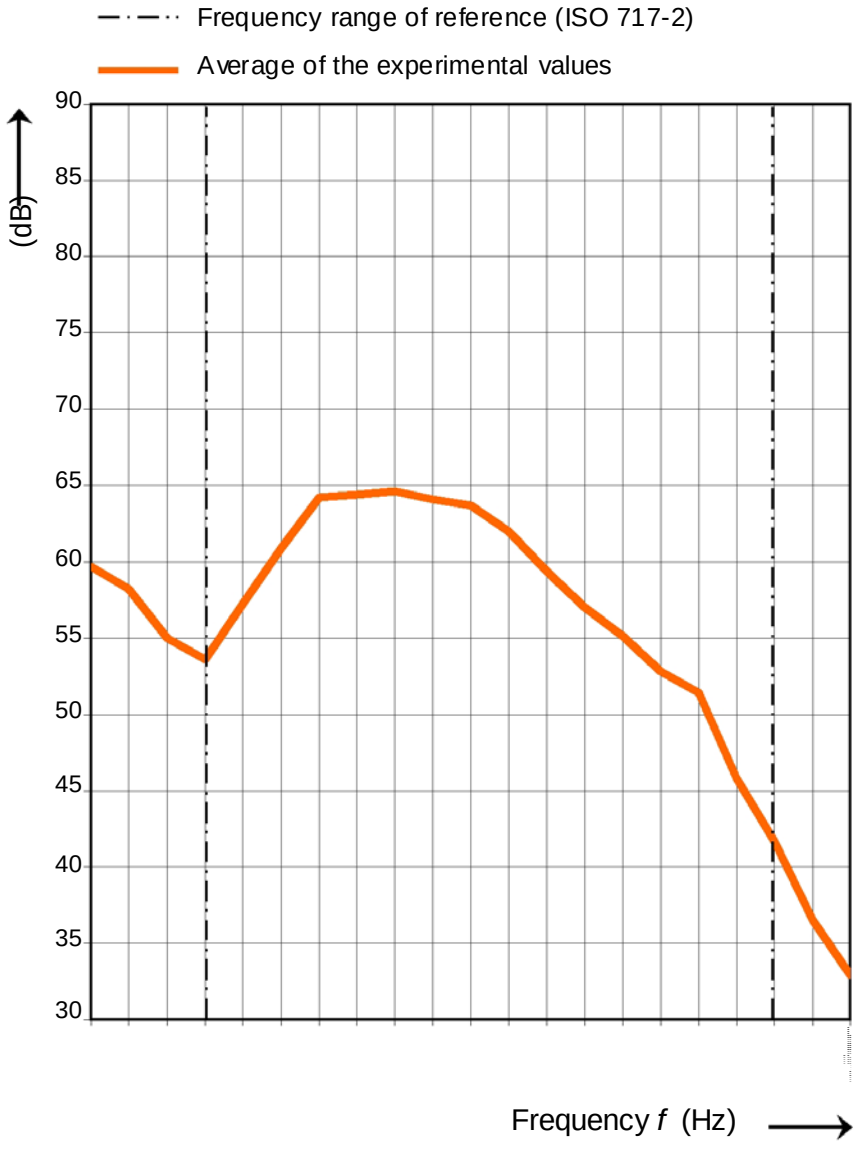
In the receiving room were also measured the level of background noise and reverberation time at various frequencies, repeating twice the test in at least three points, with the method of interruption of stationary source.

Boundary conditions of the measurements:

Non si è verificata la necessità di apportare correzioni ai livelli sonori per compensare il rumore di fondo.

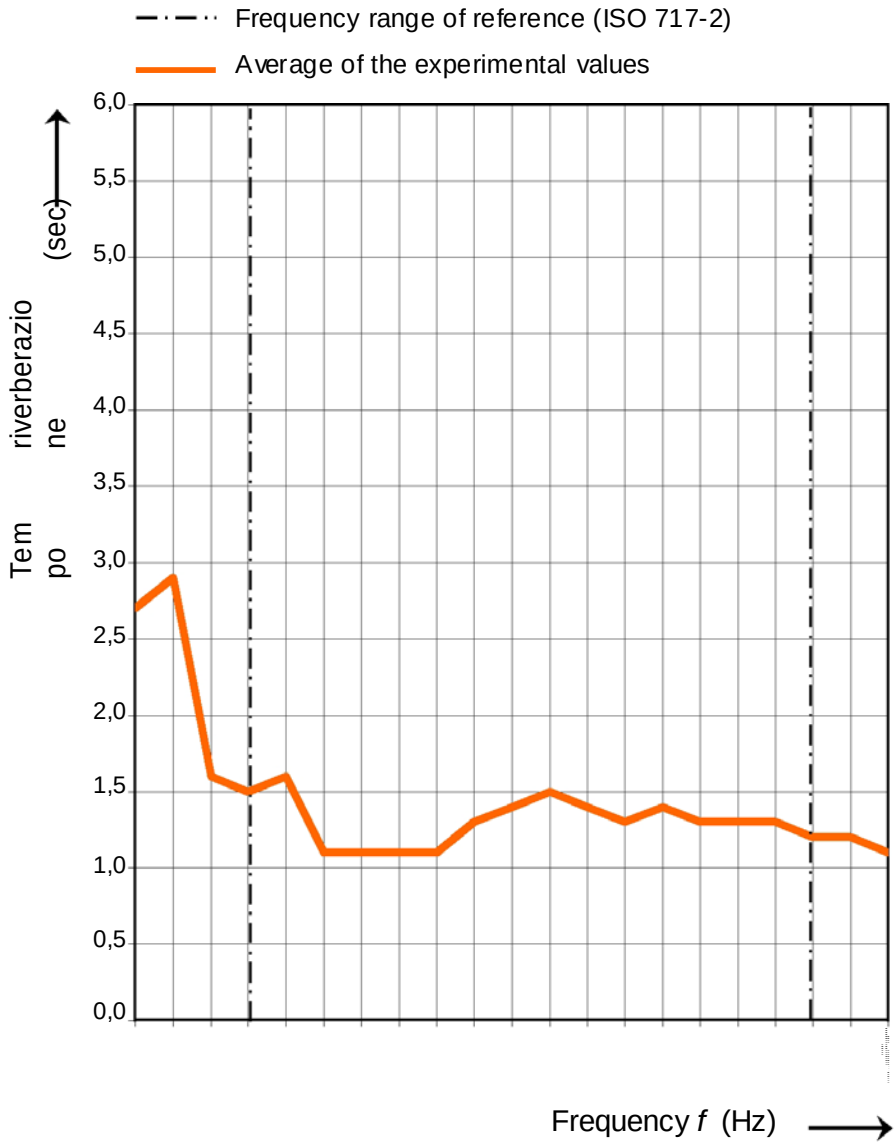
1 - Average level of trampling sound pressure measured in the receiving room (Li)

Frequency *f* (Hz)	L_i 1/3 octave (dB)
50	59,7
63	58,2
80	55,0
100	53,6
125	57,2
160	60,9
200	64,2
250	64,4
315	64,6
400	64,1
500	63,7
630	62,0
800	59,4
1.000	57,0
1.250	55,1
1.600	52,8
2.000	51,4
2.500	45,8
3.150	41,7
4.000	36,5
5.000	32,9



2 - Average reverberation time measured in the receiving room

Frequency *f* (Hz)	T rev 1/3 octave (sec)
50	2,7
63	2,9
80	1,6
100	1,5
125	1,6
160	1,1
200	1,1
250	1,1
315	1,1
400	1,3
500	1,4
630	1,5
800	1,4
1.000	1,3
1.250	1,4
1.600	1,3
2.000	1,3
2.500	1,3
3.150	1,2
4.000	1,2
5.000	1,1

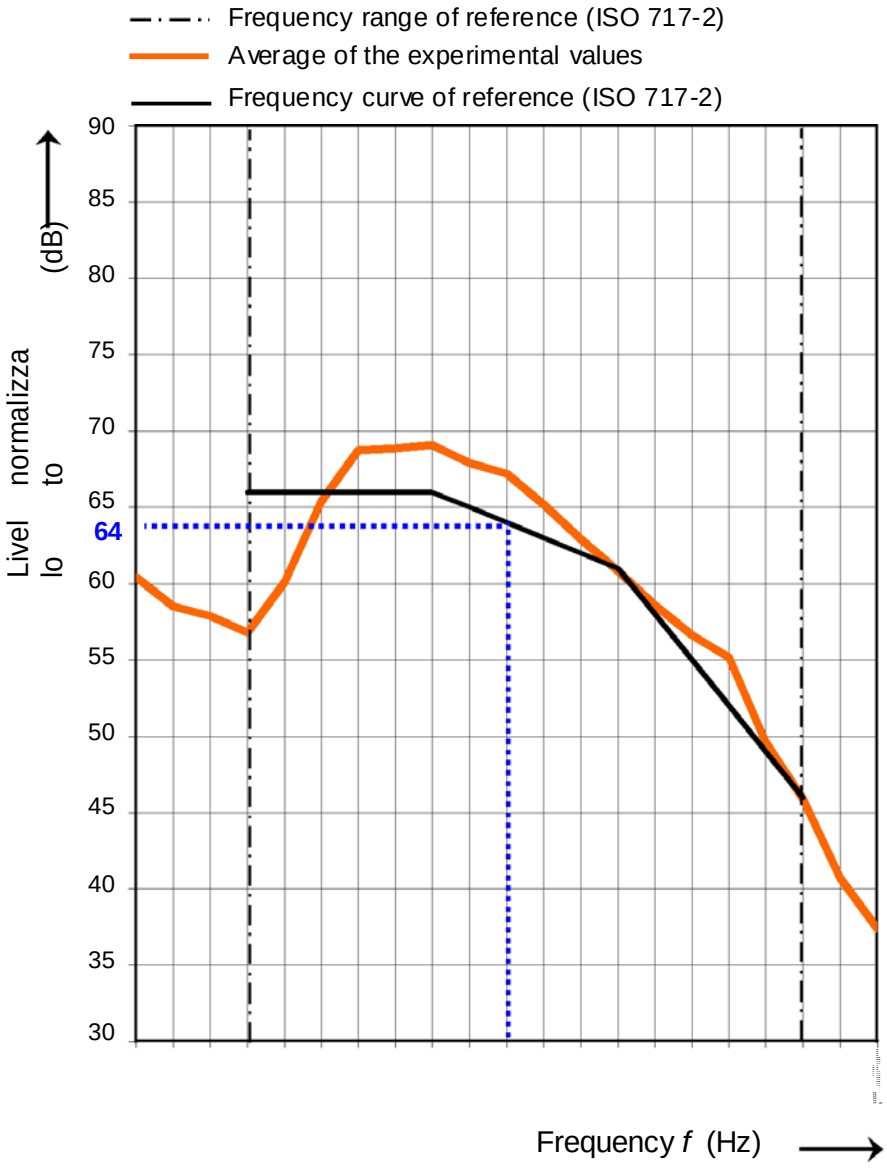


RAPPORTO DI PROVA N. 181/06
Misurazione in opera dell'isolamento dal rumore di calpestio di solai

Client: Geoplast spa - Via Martiri della Libertà, 6/8 - Grantorto (PD)
Date of issue: 18/08/2006 **Date of test:** 27/07/2006

3 – Evaluation index of the level of trampling sound pressure normalized on sound absorption ($L'_{n,w}$)

Frequency *f* (Hz)	L'_n 1/3 octave (dB)
50	60,4
63	58,5
80	57,9
100	56,8
125	60,1
160	65,4
200	68,7
250	68,9
315	69,1
400	67,9
500	67,2
630	65,2
800	62,9
1.000	60,8
1.250	58,6
1.600	56,6
2.000	55,2
2.500	49,6
3.150	45,9
4.000	40,7
5.000	37,4



Evaluation index according to ISO 717-2: $L'_{n,w} = 64$ dB

Terms of adaptation to the spectrum for the standard and extended frequency range:

$C_I = -2$ dB $\quad C_{I,50\text{-}2500} = -2$ dB

Evaluation based on results of measurements obtained by using one-third octave method

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ing. Vincenzo Baccan